

Your 2¢...

We will use the force sensor and a cup to “weigh” pennies. Weight is a force. Sketch a prediction below of what you think a graph of Force (weight) vs. number of pennies would look like.

Be sure and record any markings on your bag of pennies. Configure your equipment for an Events with Entry experiment. The Event will be number of pennies. Be sure and zero the Force probe before you start.

Collect data for 0, 5, 10, 15, 20 pennies etc. and construct a scatterplot.

How did your actual graph compare to your prediction?

Analyze the graph and write the function/equation that models this data.

What would be the unit for the slope? What is the physical meaning of the slope?

There are other bags of pennies. Trade with another group in order to have a different one from your first experiment. Be sure not to mix up any of the pennies.

Repeat the experiment with your new bag of pennies.

Analyze the graph and write the function/equation that models this data.

Discuss in your group and answer this question. “Are the two bags of pennies exactly the same?” Explain your reasoning.

Observe everything can you can about the two bags of pennies and develop a hypothesis regarding the two bags. Explain your thinking.

One group’s hypothesis was: “ The one bag of pennies average weight was lighter because they were older and some of the copper had worn away.” Comment on this hypothesis and explain your reasoning.